

REMARKS

Claims 1-6, 8-21, and 23-32 were pending in the application; the status of the claims is as follows:

Claims 1-6, 8-21, and 23-32 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,748,277 to Huang et al (“Huang et al”) in view of U.S. Patent No. 6,236,385 B1 to Nomura et al (“Nomura et al”).

Claims 1-32 have been canceled. Claims 33-42 have been added. The new claims do not introduce any new matter

35 U.S.C. § 103(a) Rejection

It is respectfully submitted that the rejection of claims 1-6, 8-21, and 23-32 under 35 U.S.C. § 103(a) as being unpatentable over Huang et al in view of Nomura et al, is mooted by the cancellation of the subject claims.

New Claims 33-42

It is respectfully submitted that new claims 33-42 distinguish over the art of record in the present case.

A person skilled in the art would understand that there are two kinds of chiral nematic liquid crystal. One kind of chiral nematic liquid crystal is suitable for use in a display that operates in a twisted nematic (TN) or super twisted nematic (STN) mode. That is an image is formed by controlling the pixels to selectively change the polarization of light passing through the pixel. The light is then blocked or passed by a polarizer depending on the polarization of the light. The other kind of chiral nematic liquid crystal is suitable for use in a display that forms an image by switching pixels in the cholesteric liquid crystal layer between a focal-conic state and a planar state so as to selectively reflect incident light.

Nomura teaches a method of driving a display of the type that uses a chiral nematic liquid crystal to change the polarization of light passing through. Column 11, lines 1-9. More specifically, as shown in Figs. 1 and 4, Nomura teaches a method of switching the twist state of a liquid crystal between a non-twist state (0 degree) and a 360-degree twist state.

Huang teaches a method of driving a display of the type that changes the state of a chiral nematic liquid crystal between a focal conic state and a planar state to selectively reflect light incident on the display. Column 6, lines 42-45.

“To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.” MPEP 2143.

“Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art.” However, “if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious.” MPEP 2143.01

It is respectfully submitted that because the operating principles of their respective displays are different, Nomura and Huang cannot be combined without changing their principles of operation. Accordingly, there can be no motivation to combine the references as proposed in the Office Action.

Moreover, even if Huang and Nomura were combined, the combination still fails to teach all of the features of the new claims. For example, neither reference teaches that the maximum amplitude of the pulses applied to the data electrodes is smaller than a threshold voltage at which the state of the liquid crystal changes, or that the polarity maintaining period of the pulse applied during the reset step and the polarity maintaining period of the pulse applied during the evolution step are longer than that of the pulse applied during the selection step.

The Examiner states that Huang describes, at column 10, lines 7-45, the polarity maintaining period of the pulse during the evolution step. However, in these paragraphs, Huang describes, referring to Figs. 5 and 6, that the frequency of the voltage applied to the row electrode during the evolution phase is higher than the frequency of the voltage applied to the row electrode during the select phase, that is, the polarity maintaining period of the former is shorter than the polarity maintaining period of the latter. Thus, in regards to the relationship between the polarity maintaining period of the pulse applied during the evolution step and the polarity maintaining period of the pulse applied during the selection step, the disclosure of Huang is reverse to the feature of the present invention.

Accordingly, it is respectfully submitted that new claims 33-42 distinguish over Huang and Nomura.

CONCLUSION

Wherefore, in view of the foregoing amendments and remarks, this application is considered to be in condition for allowance, and an early reconsideration and a Notice of Allowance are earnestly solicited.

This Amendment does not increase the number of independent claims, does not increase the total number of claims, and does not present any multiple dependency claims. Accordingly, no fee based on the number or type of claims is currently due. However, if a

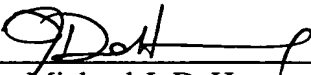
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fee, other than the issue fee, is due, please charge this fee to Sidley Austin Brown & Wood LLP's Deposit Account No. 18-1260.

If an extension of time is required to enable this document to be timely filed and there is no separate Petition for Extension of Time filed herewith, this document is to be construed as also constituting a Petition for Extension of Time Under 37 C.F.R. § 1.136(a) for a period of time sufficient to enable this document to be timely filed.

Any other fee required for such Petition for Extension of Time and any other fee required by this document pursuant to 37 C.F.R. §§ 1.16 and 1.17, other than the issue fee, and not submitted herewith should be charged to Sidley Austin Brown & Wood LLP's Deposit Account No. 18-1260. Any refund should be credited to the same account.

Respectfully submitted,

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